

CLAIMS

I claim:

- [c1]
 1. A vehicle support system, comprising:
a base;
first and second elongated support assemblies pivotally coupled to the base and movable relative to the base and relative to each other between spread and stowed positions, the first and second support assemblies each configured to engage a portion of a support surface such that the first and second support assemblies support at least a portion of the base above the support surface; and
a control mechanism mechanically interconnecting the first and second support assemblies, the control mechanism configured to control pivotal movement of each of the first and the second support assemblies between the spread and stowed positions.
- [c2]
 2. The system of claim 1 wherein the control mechanism includes an actuator that simultaneously moves the first support assembly relative to the second support assembly.
- [c3]
 3. The system of claim 1 wherein the control mechanism includes a hydraulically operated actuator that simultaneously moves the first support assembly relative to the second support assembly.
- [c4]
 4. The system of claim 1 wherein the control mechanism includes a locking device having a locked state that releasably locks at least one of the first and second support assemblies in a selected position and an unlocked state that allows the first and second support assemblies to move relative to each other.

[c5] 5. The system of claim 1, further comprising a stop connected to the base and positioned to engage the first support assembly at the stowed position and to prevent the first support assembly from moving past the stowed position.

[c6] 6. The system of claim 1, further comprising a stop connected to the base and positioned to engage the first support assembly at the stowed position and to prevent the first support assembly from moving past the stowed position, and wherein the control mechanism is configured to urge the first support assembly toward the stop when the first support assembly is in the stowed position.

[c7] 7. The system of claim 1, further comprising a stop configured to prevent at least one of the first and second support assemblies from moving past the stowed position.

[c8] 8. The system of claim 1, further comprising a stop connected to the base and positioned to engage the first support assembly at the spread position and to prevent the first support assembly from moving past the spread position.

[c9] 9. The system of claim 1, further comprising a stop connected to the base and positioned to engage the first support assembly at the spread position and to prevent the first support assembly from moving past the spread position, and wherein the control mechanism is configured to urge the first support assembly toward the stop when the first support assembly is in the spread position.

[c10] 10. The system of claim 1, further comprising a stop configured to prevent at least one of the first and second support assemblies from moving past the spread position.

[c11] 11. The system of claim 1, further comprising a mechanical link interconnecting the first and second support assemblies and being configured to coordinate movement of the first and second support assemblies between the spread and stowed positions.

[c12] 12. The system of claim 1, further comprising a mechanical link interconnecting the first and second support assemblies and being configured to coordinate movement of the first and second support assemblies between the spread and stowed positions, and wherein the control mechanism is coupled to the first and second support assemblies via the mechanical link.

[c13] 13. The system of claim 1, further comprising a mechanical link interconnecting the first and second support assemblies and being configured to coordinate movement of the first and second support assemblies between the spread and stowed positions, and wherein the mechanical link includes at least one stop that prevents the mechanical link from moving past a position corresponding to the first and second support assemblies being in at least one of the stowed and spread positions.

[c14] 14. The system of claim 1, further comprising:
third and fourth elongated support assemblies pivotally coupled to the base and movable relative to the base and relative to each other between spread and stowed positions, the third and fourth support assemblies each configured to engage a portion of a support surface such that the third and fourth support assemblies support at least a portion of the base above the support surface;
a first mechanical link interconnecting the first and third support assemblies and being configured to coordinate movement of the first and third support assemblies between the spread and stowed positions; and
a second mechanical link interconnecting the second and fourth support assemblies and being configured to coordinate movement of the

second and fourth support assemblies between the spread and stowed positions, and wherein the control mechanism is configured to control pivotal movement of each of the first, second, third, and fourth support assemblies between the spread and stowed positions.

[c15] 15. The system of claim 1, further comprising:
third and fourth elongated support assemblies pivotally coupled to the base and movable relative to the base and relative to each other between spread and stowed positions, the third and fourth support assemblies each configured to engage a portion of a support surface such that the third and fourth support assemblies support at least a portion of the base above the support surface; and
at least one mechanical link interconnecting at least two of the first, second, third, and fourth support assemblies, the at least one mechanical link being configured to coordinate movement of the interconnected support assemblies between the spread and stowed positions, and wherein the control mechanism is configured to control pivotal movement of each of the first, second, third, and fourth support assemblies between the spread and stowed positions.

[c16] 16. The system of claim 1 wherein at least one of the first and second support assemblies is vertically movable relative to the base.

[c17] 17. The system of claim 1, further comprising at least one of a basket and a tool coupled to the base.

[c18] 18. A vehicle support system comprising:
a base;
first and second elongated support assemblies pivotally coupled to the base and movable relative to the base and relative to each other between spread and stowed positions, the first and second support

assemblies each configured to engage a portion of a support surface such that the first and second support assemblies support at least a portion of the base above the support surface;

a control mechanism mechanically interconnecting the first and second support assemblies, the control mechanism configured to control pivotal movement of each of the first and the second support assemblies between the spread and stowed positions;

a first wheel assembly coupled to the first support assembly and a second wheel assembly coupled to the second support assembly;

a first steering mechanism coupled to the first wheel assembly and the first support assembly, and a second steering mechanism coupled to the second wheel assembly and the second support assembly, the first and second steering mechanisms configured to independently position the corresponding first and second wheel assemblies relative to the first and second support assemblies; and

a control system operatively coupled to the first and second steering mechanisms, and being configured to, in response to operator input, command selected angular positions of the first and second wheel assemblies relative to the base by compensating for the first and second support assemblies being in the spread or stowed position.

[c19] 19. The system of claim 18, further comprising at least one of a basket and a tool coupled to the base and configured for use by an operator.

[c20] 20. The system of claim 18 wherein at least one angular position will create a force tending to urge the first and second support assemblies to move relative to one another as the vehicle translates.

[c21] 21. The system of claim 18, further comprising at least one sensor configured to determine an angular position of the first and second wheel assemblies relative to the base and operatively coupled to the control system.

[c22] 22. The system of claim 18, further comprising a stop configured to prevent at least one of the first and second support assemblies from moving past the stowed position.

[c23] 23. The system of claim 18, further comprising a stop configured to prevent at least one of the first and second support assemblies from moving past the spread position.

[c24] 24. The system of claim 18, further comprising a mechanical link interconnecting the first and second support assemblies and being configured to coordinate movement of the first and second support assemblies between the spread and stowed positions.

[c25] 25. A vehicle support system comprising:
a base;
first and second elongated support assemblies pivotally coupled to the base and movable relative to the base and relative to each other between spread and stowed positions, the first and second support assemblies each configured to engage a portion of a support surface such that the first and second support assemblies support at least a portion of the base above the support surface;
a first wheel assembly coupled to the first support assembly and engagable with the support surface, and a second wheel assembly coupled to the second support assembly and engagable with the support surface;
a first steering mechanism coupled to the first wheel assembly and the first support assembly, and a second steering mechanism coupled to the second wheel assembly and the second support assembly, the first and second steering mechanisms configured to independently position the corresponding first and second wheel assemblies relative to the first and second support assemblies;

a control system operatively coupled to the first and second steering mechanisms, and being configured to, in response to operator input, command selected angular positions of the first and second wheel assemblies relative to the base by compensating for the first and second support assemblies being in the spread or stowed position, and wherein at least one angular position will create a force tending to urge the first and second support assemblies to move relative to one another as the vehicle translates; and

a locking device having a locked state that releasably locks at least one of the first and second support assemblies in a selected position and an unlocked state that allows the first and second support assemblies to move relative to each other.

[c26] 26. The system of claim 25 wherein the locking device includes a collar proximate to the at least one of the first and second support assemblies and a pin that engages the collar and the at least one of the first and second support assemblies.

[c27] 27. The system of claim 25, further comprising at least one sensor configured to determine an angular position of the first and second wheel assemblies relative to the base and operatively coupled to the control system.

[c28] 28. The system of claim 25, further comprising:

two wheel sensors operatively coupled to the control system and coupled to the first and second wheel assemblies, the two wheel sensors configured to determine an angular position of the first and second wheel assemblies relative to the corresponding first and second support assemblies; and

two support sensors operatively coupled to the control system and coupled to the first and second support assemblies, the two support

assemblies positioned to determine a position of the first and second support assemblies relative to the base.

[c29] 29. The system of claim 25, further comprising:

- a control mechanism mechanically interconnecting the first and second support assemblies, the control mechanism positioned to control pivotal movement of each of the first and the second support assemblies between the spread and stowed positions;
- two wheel sensors operatively coupled to the control system and coupled to the first and second wheel assemblies, the two wheel sensors configured to determine an angular position of the first and second wheel assemblies relative to the corresponding first and second support assemblies; and
- a support sensor operatively coupled to the control system and coupled to the control mechanism, the support sensor configured to determine a position of the control mechanism.

[c30] 30. The system of claim 25, further comprising a mechanical link interconnecting the first and second support assemblies and being configured to coordinate movement of the first and second support assemblies between the spread and stowed positions.

[c31] 31. The system of claim 25, further comprising a mechanical link interconnecting the first and second support assemblies and being configured to coordinate movement of the first and second support assemblies between the spread and stowed positions, and wherein the locking device in the locked state prevents movement of the at least one of the first and second support assemblies by preventing movement of the mechanical link.

[c32] 32. The system of claim 25, further comprising:
a mechanical link interconnecting the first and second support assemblies
and being configured to coordinate movement of the first and second
support assemblies between the spread and stowed positions;
two wheel sensors operatively coupled to the control system and coupled to
the first and second wheel assemblies, the two wheel sensors
configured to determine an angular position of the first and second
wheel assemblies relative to the corresponding first and second
support assemblies; and
a support sensor operatively coupled to the control system and coupled to
the mechanical link, the support sensor configured to determine a
position of the mechanical link.

[c33] 33. The system of claim 25 wherein at least one of the first and second
support assemblies is vertically movable relative to the base.

[c34] 34. The system of claim 25, further comprising at least one of a basket
and a tool coupled to the base.

[c35] 35. A vehicle support system comprising:
a base;
first and second elongated support means for supporting the base above a
support surface, the first and second support means being pivotally
coupled to the base wherein at least a portion of each support
means extends away from the base, and the first and second
support means being movable relative to the base between spread
and stowed positions; and
a control means for controlling the movement of the first and second
support means, the control means coupling the first and second
support means together, the control means configured to control

pivotal movement of the first and second support means between the spread and stowed positions.

[c36] 36. The system of claim 35, further comprising a mechanical link interconnecting the first and second support means and being configured to coordinate movement of the first and second support means between the spread and stowed positions.

[c37] 37. The system of claim 35, further comprising:
a first wheel assembly coupled to the first support means and a second wheel assembly coupled to the second support means;
a first steering mechanism coupled to the first wheel assembly and the first support means, and a second steering mechanism coupled to the second wheel assembly and the second support means, the first and second steering mechanisms configured to independently position the corresponding first and second wheel assemblies relative to the first and second support means; and
a control system operatively coupled to the first and second steering mechanisms, and being configured to command selected angular positions of the first and second wheel assemblies relative to the base by compensating for the first and second support assemblies being in the spread or stowed position.

[c38] 38. The system of claim 35, further comprising:
third and fourth elongated support means for supporting the base above a support surface, the third and fourth support means being pivotally coupled to the base wherein at least a portion of each support means extends away from the base, and the third and fourth support means being movable relative to the base between spread and stowed positions; and

at least one mechanical link means for interconnecting at least two of the first, second, third, and fourth support means, and for coordinating movement of the interconnected support means between the spread and stowed positions, and wherein the control means is configured to control pivotal movement of each of the first, second, third, and fourth support means between the spread and stowed positions.